DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention relates to the information processor and the method, information processing system, and distribution medium which execute the computer program supplied from the information processor to which the walkie-talkie terminal was especially connected via the network about an information processor and a method, an information processing system, and a distribution medium.

[0002]

[Description of the Prior Art]In [personal digital assistants, such as a note type personal computer and PDA (Personal Digital Assistance), have spread recently, and] a place where one has gone, By using combining a personal digital assistant, personal handy phone (PHS), etc., what is called mobile computing that performs communication of a predetermined server and information via the network represented by the Internet is realized.

[0003]

[Problem(s) to be Solved by the Invention]In the conventional mobile computing, the user could only perform the function beforehand set as the personal digital assistant to be used, and the technical problem which cannot newly add a function or cannot use new service occurred.

[0004]When the user is using two or more devices (a personal digital assistant, a personal computer, etc.) with the spread of a personal digital assistant or personal computers, a user, Overlapped, and the same information as two or more devices was inputted, or the same kind of information was distributed and inputted into two or more devices, and the technical problem which cannot manage information systematically occurred.

[0005]This invention is made in view of such a situation, manages a computer program and a database by one home server, and supplies a computer program and a database according to the demand from a personal digital assistant.
[0006]
[Means for Solving the Problem]A transmitting means which transmits its own identification information to other information processors by which written this invention is connected to a network at claim 1, It is characterized by a thing which perform a predetermined function and also accesses required information from other information processors connected to a network and for which the following was comprised without accumulating and being alike.

A reception means which receives access information.

An acquisition means which performs access processing, and performs a predetermined function based on access information which a reception means received, and also acquires required information.

[0007]A transmission step which transmits its own identification information to other information processors by which written this invention is connected to a network at claim 3, It is characterized by a thing which perform a predetermined function and also accesses required information from other information processors connected to a network and for which the following was comprised without accumulating and being alike.

A receiving step which receives access information.

An acquisition step which performs access processing, and performs a predetermined function based on access information received at a receiving step, and also acquires required information.

[0008]A transmission step which transmits its own identification information to other information processors by which the distribution medium according to claim 4 is connected to a network, A receiving step which receives access information for

performing a predetermined function and also accessing required information from other information processors connected to a network, A computer program provided with an acquisition step which performs access processing, and performs a predetermined function based on access information received at a receiving step, and also acquires required information is provided.

[0009]written this invention is characterized by it having been alike and comprising the following at claim 5.

A means of communication which communicates a walkie-talkie terminal and information.

A search means to search a home server corresponding to identification information inputted from a walkie-talkie terminal.

An accessing means which accesses a home server searched by a search means.

A transfer means which transmits information supplied from a home server to a walkie-talkie terminal.

[0010]written this invention is characterized by it having been alike and comprising the following at claim 7.

A communication step which communicates a walkie-talkie terminal and information.

A searching step which searches a home server corresponding to identification information inputted from a walkie-talkie terminal.

An access step which accesses a home server searched with a searching step.

A transfer step which transmits information supplied from a home server to a walkie-talkie terminal.

[0011]A communication step with which the distribution medium according to claim 8 communicates a walkie-talkie terminal and information, A searching step which searches a home server corresponding to identification information inputted from a walkie-talkie terminal, A computer program provided with an access step which accesses a home server searched with a searching step, and a transfer step which

transmits information supplied from a home server to a walkie-talkie terminal is provided.

[0012]Written this invention is characterized by a thing which access information required to perform [a name of a function which a user performs via a walkie-talkie terminal, and] a function and for which the following was comprised without accumulating and being alike at claim 9.

A storage means which keeps access information.

An output means which outputs information which a storage means keeps to a walkie-talkie terminal.

[0013]Written this invention is characterized by a thing which access information required to perform [a name of a function which a user performs via a walkie-talkie terminal, and] a function and for which the following was comprised without accumulating and being alike at claim 11.

A storage step which keeps access information.

An output step which outputs information kept at a storage step to a walkie-talkie terminal.

[0014]A name of a function in which a user performs the distribution medium according to claim 12 via a walkie-talkie terminal, A computer program provided with a storage step which keeps access information for accessing information required to perform a function, and an output step which outputs information kept at a storage step to a walkie-talkie terminal is provided.

[0015]written this invention is characterized by it having been alike and comprising the following at claim 13.

A search means to search a corresponding home server based on identification information supplied from a walkie-talkie terminal.

A transfer means which transmits information which a walkie-talkie terminal outputted to a home server.

[0016]In the information processor according to claim 1, the information processing method according to claim 3, and the distribution medium according to claim 4, Its own identification information is transmitted to other information processors connected to a network, and access information for performing a predetermined function and also accessing required information from other information processors connected to a network, is received. Based on received access information, access processing is performed, and a predetermined function is performed, and also required information is acquired.

[0017]In the information processor according to claim 5, the information processing method according to claim 7, and the distribution medium according to claim 8, a walkie-talkie terminal and information communicate and a home server corresponding to identification information inputted from a walkie-talkie terminal is searched. It is accessed by searched home server and information supplied from a home server is transmitted to a walkie-talkie terminal.

[0018]In the information processor according to claim 9, the information processing method according to claim 11, and the distribution medium according to claim 12, A name of a function which a user performs via a walkie-talkie terminal, and access information for accessing information required to perform a function are kept, it is kept and slack information is outputted to a walkie-talkie terminal.

[0019]In the information processing system according to claim 13, a home server to which a search means corresponds based on identification information supplied from a walkie-talkie terminal is searched, and a transfer means transmits information which a walkie-talkie terminal outputted to a home server.

[0020]

[Embodiment of the Invention]Although an embodiment of the invention is described below, it is as follows, when an embodiment [/ in the parenthesis after each means] (however, an example) is added and the feature of this invention is described, in order to clarify correspondence relation between each means of an

invention given in a claim, and following embodiments.

[0021]Namely, the transmitting means (for example, step S1 of drawing 8) which transmits its own identification information to other information processors by which written this invention is connected to a network at claim 1, It is characterized by the thing which perform a predetermined function and also accesses required information from other information processors connected to a network and for which the following was comprised without accumulating and being alike.

The reception means which receives access information (for example, step S2 of drawing 8).

The acquisition means which performs access processing, and performs a predetermined function based on the access information which the reception means received, and also acquires required information (for example, step S4 of drawing 8).

[0022]written this invention is characterized by it having been alike and comprising the following at claim 5.

The means of communication which communicates a walkie-talkie terminal and information (for example, step S12 of drawing 9).

A search means to search the home server corresponding to the identification information inputted from a walkie-talkie terminal (for example, step S13 of drawing 9).

The accessing means which accesses the home server searched by the search means (for example, step S18 of drawing 9).

The transfer means which transmits the information supplied from the home server to a walkie-talkie terminal (for example, step S18 of drawing 9).

[0023]Written this invention is characterized by the thing which access information required to perform [the name of the function which a user performs via a walkie-talkie terminal, and] a function and for which the following was comprised

without accumulating and being alike at claim 9.

The storage means which keeps access information (for example, storage part 57 of drawing 6).

The output means which outputs the information which a storage means keeps to a walkie-talkie terminal (for example, step S44 of drawing 11).

[0024]written this invention is characterized by it having been alike and comprising the following at claim 13.

A search means to search a corresponding home server based on the identification information supplied from a walkie-talkie terminal (for example, step S32 of drawing 10).

The transfer means which transmits the information which the walkie-talkie terminal outputted to a home server (for example, step S33 of drawing 10).

[0025]However, of course, this statement does not mean limiting to what indicated each means.

[0026]The composition of the information processing system which applied this invention is explained with reference to drawing 1. The term of a system as used herein means the overall device constituted by two or more devices, a means, etc.

[0027]The user terminal 1 of this information processing system is made as [have / the information, including a database, a computer program, etc., accessed and expected of the base transceiver station 2 or the home server 5 using PHS to build in / I / supplied].

[0028]The detailed composition of the user terminal 1 is explained with reference to drawing 2. The input part 11 receives a user's operation and is made as [output / to the control section 16 / the operation information]. The indicator 12 is made as [display / corresponding to a user's operation in which it is inputted into the input part 11 / predetermined information].

[0029]The communications department 13 has a PHS function and is made as

[receive / the base transceiver station 2 or the home server 5, and information / with a PHS Internet access forum standard (PIAFS) method / transmit and]. ROM14 memorizes the computer program used by the control section 16. RAM15 memorizes temporarily the information which the communications department 13 acquired from the exterior. The control section 16 is made as [control / the user terminal 1 whole] based on a user's operation information that it was inputted from the input part 11.

[0030]Drawing 3 shows the example of the information (support information) (information which the home server 5 will have memorized if it puts in another way) which the user terminal 1 receives from the home server 5. The name (for example, Video request to print out files) of the function which can be performed using the user terminal 1, or service is shown in the column of method of drawing 3. In the column of URI (Uniform Resource Identifier). URI (for example, http://comp.org/video/method1) for acquiring information (for example, a computer program, a database) required to perform method (it accesses) is shown. [required to perform URI to method to which the home server 5 corresponds in the column of Local ptr.] For example, when it is already ending with acquisition about a computer program, the directory (for example, file://C:/tmp/usr3/method1) in the home server 5 which is keeping the computer program is shown.

[0031]It returns to drawing 1, and the demand from the user terminal 1 is satisfied, and the base transceiver station 2 is made as [perform / transmission and reception of the home server 5 and information] while transmitting the user ID supplied to the directory server 4 from the user terminal 1 via the network 3 represented by the Internet. The base transceiver station 2 is made as [be / connecting simultaneously with a predetermined number of user terminals / possible].

[0032]The detailed composition of the base transceiver station 2 is explained with reference to drawing 4. The communications department 21 is made as [perform / via a PHS network (not shown) / transmission and reception of the user terminal 1 and information]. The communications department 22 is made as [perform / via the

network 3 / transmission and reception of the directory server 4 or the home server 5, and information]. ROM23 memorizes the computer program used by the control section 25. RAM24 is used as workspace of the control section 25 while memorizing the computer program used by the control section 25. The control section 25 controls the base transceiver station 2 whole. The storage parts store 26 memorizes temporarily the information which the communications departments 21 and 22 acquired from the exterior.

[0033]the accessing method (a telephone number.) to the home server 5 which corresponds to drawing 5 with user ID (the e-mail address and telephone number which can specify a user may be sufficient) peculiar to a user so that the directory service server 4 may be shown When URI etc. are registered and managed and user ID is inputted from the base transceiver station 2, it is made as [transmit / to the corresponding home server 5 / information].

[0034]The home server 5 is a server which manages the information, including a computer program etc. which a database and the user terminal 1 use, which a user uses unitary, and is made as [supply / by the demand from the base transceiver station 2 connected via the network 3 / the specified information]. The home server 5 is made as [carry out / by a PHS network or infrared ray communication / to the user terminal 1 / direct continuation]. Direct continuation of the home server 5 is carried out, for example, it is made as [control / an external instrument like VCR6].

[0035]The detailed composition of the home server 5 is explained with reference to drawing 6. The communications department 51 performs transmission and reception of the base transceiver station 2 and information via the network 3. The communications department 52 performs transmission and reception of the user terminal 1 and information via a PHS network. The communications department 53 is made as [perform / transmission and reception of the user terminal 1 and information / using short distance communication means, such as infrared rays, / directly].

[0036]ROM54 memorizes the computer program used by the control section 56.

RAM55 is used as workspace of the control section 56 while memorizing the computer program used by the control section 56. The control section 56 controls the home server 5 whole. The storage part 57 keeps the information which a user uses. The external instrument terminal area 58 is an interface which carries out direct continuation of the external instrument, and is made as [output / the control signal over an external instrument].

[0037]Drawing 7 shows the information which the storage part 57 of the home server 5 keeps. The name (for example, Video request to print out files) of the function supplied to the user terminal 1 is shown in the column of method of drawing 7. URI (for example, http://comp.org/video/method1) in which the computer program required to perform method is stored is shown in the column of URI.

[0038]Drawing 8 thru/or drawing 11 are the user terminal 1, the base transceiver station 2, the directory service server 4, or a flow chart explaining operation of the home server 5, respectively. Drawing 12 is a figure showing the relation of processing of each of these devices.

[0039]Next, operation of each composition of this information processing system and the operation as a system are explained with reference to these figures. The case where video reservation is made to perform from the now 1, for example, a user terminal, to VCR6 via the home server 5 is explained as an example.

[0040]In Step S1, a user operates the input part 11 of the user terminal 1, and orders it access to the home server 5, and the output of a location registration request. The control section 16 reads the location registration request signal and user ID (for example, ABC1234) which are memorized by ROM14, and makes it transmit via the communications department 13 at this time.

[0041]The control section 25 of the base transceiver station 2 receives this location registration request via the communications department 22 at Step S11, and judges that it is communication from a new user terminal. Then, the control section 25 receives user ID via the communications department 22 at Step S12.

[0042]In Step S13, the control section 25 of the base transceiver station 2, The

access information to the directory service server 4 memorized by ROM23 is read, it connects with the directory service server 4 via the communications department 22, and the location registration request inputted from user ID and the user terminal 1 is made to transmit.

[0043]In Step S31, by having inputted user ID, the directory service server 4 detects a search request, and searches the home server 5 corresponding to the inputted user ID in Step S32. Furthermore, the directory service server 4 transmits the location registration request of the access information (for example, line number) to the base transceiver station 2, and the user terminal 1 to the home server 5 in Step S33.

[0044]In Step S41, the control section 56 of the home server 5 receives the location registration request transmitted from the directory service server 4 via the communications department 51, and detects that change arose in the state of the user terminal 1. In Step S42, the control section 56 notifies the self version (the function which can be supplied, the value which shows the level of service) currently kept by the storage part 57 to the base transceiver station 2 via the communications department 52.

[0045]In Step S14, the control section 25 of the base transceiver station 2 receives the version information of the home server 5 via the communications department 22, and reads and compares the self version memorized by the version and ROM23. The control section 25 notifies the value of the low (it is functionally inferior) version of the two compared versions to the home server 5 via the communications department 51.

[0046]The control section 56 of the home server 5 makes the user authentication request memorized by ROM54 output to the base transceiver station 2 via the communications department 51, after receiving the version notified from the base transceiver station 2 via the communications department 51 (Step S42).

[0047]In Step S17, the control section 25 of the base transceiver station 2 receives the user authentication outputted from the home server 5 via the communications

department 22, and requests the input of a password from the user terminal 1 via the communications department 21 in Step S18.

[0048]The control section 16 of the user terminal 1 receives the input request of a password via the communications department 13. The control section 16 displays on the indicator 12 the message which requires the input of a password. A user enters into the input part 11 the password beforehand registered into the home server 5. The control section 16 makes the password entered into the input part 11 output to the base transceiver station 2 via the communications department 13.

[0049]In Step S15, the control section 25 of the base transceiver station 2 receives the password entered from the user terminal 1, and transmits the received password to the home server 5 in Step S16.

[0050]It is judged whether the control section 56 of the home server 5 is equal to the password which receives a password via the communications department 51 and is beforehand registered into the storage part 57. When it judges that the received password is equal to the password registered beforehand, the control section 56, What suits the version which received at the point of the information (support information) which can be supplied as shown in drawing 3 currently kept by the storage part 57 is made to output to the base transceiver station 2 via the communications department 51 (Step S42).

[0051]In Step S17, the control section 25 of the base transceiver station 2 receives the support information outputted from the home server 5 via the communications department 22, and transmits support information to the user terminal 1 via the communications department 21 in Step S18.

[0052]The control section 16 of the user terminal 1 displays on the indicator 12 the support information received via the communications department 13 (Step S2). A user chooses processing [which he wishes out of the processing currently displayed on the indicator 12] (in this case, Video request to print out files). In Step S3, the control section 16 outputs the demand of the selected processing to the base transceiver station 2 via the communications department 13.

[0053]In Step S15, the control section 25 of the base transceiver station 2 receives the information on the selected processing that it was inputted from the user terminal 1, and transmits the received information to the home server 5 in Step S16.

[0054]The control section 56 of the home server 5 outputs the computer program currently kept by the storage part 57 required in order to receive the information on the processing which the user chose via the communications department 51 (Step S43) and to perform selected processing with the user terminal 1 to the base transceiver station 2 via the communications department 51. (Step S44)

[0055]In Step S17, the control section 25 of the base transceiver station 2 receives the computer program outputted from the home server 5 via the communications department 22, and transmits the computer program to the user terminal 1 via the communications department 21 in Step S18.

[0056]The control section 16 of the user terminal 1 receives a computer program via the communications department 13 (step S4), and executes the computer program. A user inputs predetermined directions (for example, the program to record is specified) into the input part 11. In Step S3, the control section 16 outputs the predetermined directions inputted into the input part 11 to the base transceiver station 2 via the communications department 13.

[0057]In Step S15, the control section 25 of the base transceiver station 2 receives the information on predetermined directions via the communications department 21, and transmits the information on the received predetermined directions to the home server 5 via the communications department 22 in Step S16.

[0058]In [the control section 56 of the home server 5 receives a user's predetermined directions via the communications department 51 in Step S43, and] Step S44, Reservation of picture recording is made to set it as VCR6 which controls the external instrument terminal area 58 and is connected based on the received predetermined directions, and the information on the end of setting out is outputted to the base transceiver station 2 via the communications department 51.

[0059]In Step S17, the control section 25 of the base transceiver station 2 receives

the setting-out finish information outputted from the home server 5 via the communications department 22, and transmits setting-out finish information to the user terminal 1 via the communications department 21 in Step S18.

[0060]The control section 16 of the user terminal 1 receives setting-out finish information via the communications department 13 (step S4), and notifies the finish information of equipment setting processing to the base transceiver station 2 via the communications department 13 in Step S5.

[0061]The control section 25 of the base transceiver station 2 receives the finish information of processing via the communications department 21 (Step S15), is made to transmit it to the home server 5 via the communications department 22 (Step S16), and ends information transfer processing (Step S21).

[0062]The control section 56 of the home server 5 receives the finish information of processing via the communications department 51, and ends an information provisioning process. (Step S47)

[0063]As mentioned above, each device of an information processing system functions as a system by performing processing defined beforehand, respectively.

[0064]Here, in the operation mentioned above, operation of the base transceiver station 2 which is not explained is explained with reference to drawing 9. In Step S19, the control section 25 of the base transceiver station 2 judges whether the user terminal in which adiaphorous time (time when transfer of information is not performed) passed predetermined time is in the user terminal connected to self. When judged with there being a user terminal in which adiaphorous time passed predetermined time, it progresses to Step S20.

[0065]As opposed to the user terminal which passed time predetermined [control section / 25] in adiaphorous time in Step S20, When a predetermined packet is made to transmit via the communications department 21, it judges whether there is any answer to the packet from the user terminal and it is judged with there being an answer, the adiaphorous time to the user terminal is reset. When judged with there being no answer, the control section 25 makes the end of connection notify to the

home server 5 corresponding to the user terminal via the communications department 22, and makes the information about the user terminal eliminate.

[0066]In this embodiment, although the communications department 13 of the user terminal 1, the communications department 21 of the base transceiver station 2, and the communications department 52 of the home server 5 were made into the PHS method, PCS (Personal Communication Services) which can communicate, or a DECT (DigitalEuropean Cordless Telecommunications) method may be used like a PHS method at wireless.

[0067]About installation of the directory service server 4. When established permanently by connecting the directory service server 4 with the network 3 using a dedicated line, Any in the case of being what is called dial-up IP connection which the directory service server 4 connects with the network 3 at the time of the request from the base transceiver station 2 may be sufficient.

[0068]Although the directory service server 4 managed the accessing method to the home server 5 corresponding to user ID, it may be made to manage the accessing method to the home server 5 corresponding to apparatus ID of the user terminal 1.

[0069]It may be made to omit the processing which accesses the directory service server 4 in a communicative initial stage by storing beforehand the accessing method to the corresponding home server 5 in the user terminal 1.

[0070]In this embodiment, although the number of the user ID corresponding to a user and home servers was set to one, respectively, two or more user ID and home servers may be assigned to a user like home use and business use, for example.

[0071]A user can be provided with the computer program which performs each above-mentioned processing via network distribution media, such as the Internet and a digital satellite, besides the distribution medium which consists of information recording media, such as a magnetic disk and CD-ROM.

[0072]

[Effect of the Invention]As mentioned above, according to the information processor according to claim 1, the information processing method according to claim 3, and

the distribution medium according to claim 4. The access information of the beans which perform a predetermined function from other information processors connected to a network, and also access required information is received, Based on the received access information, access processing is performed, and perform predetermined processing, and also required information is acquired, According to the information processor according to claim 5, the information processing method according to claim 7, and the distribution medium according to claim 8. The home server corresponding to the identification information inputted from a walkie-talkie terminal is searched, and according to the information processor according to claim 9, the information processing method according to claim 11, and the distribution medium according to claim 12. The name of the function which a user performs via a walkie-talkie terminal, and the information for accessing information required to perform a function are kept, A computer program which a home server keeps since the information kept carried out for outputting to a walkie-talkie terminal, and the corresponding home server was searched based on the identification information supplied from a walkie-talkie terminal according to the information processing system according to claim 13, And it becomes possible to supply a database according to the request from a walkie-talkie terminal.

[Translation done.]